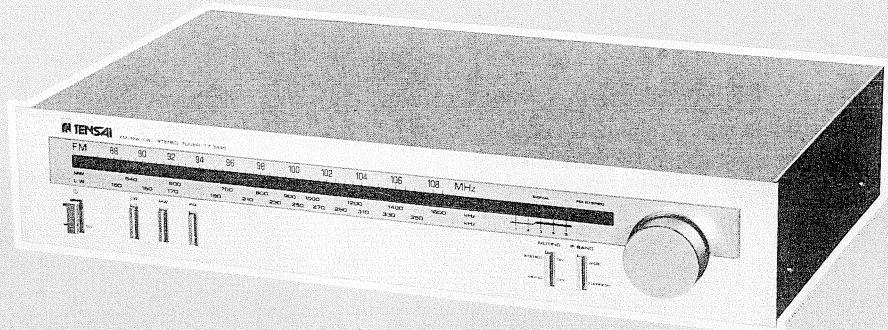


Service Manual

Stereo Tuner
MODEL TT3445



1. SPECIFICATIONS

FM PERFORMANCE

Frequency Range	87.5 – 109 MHz
IHF Sensitivity at 98 MHz	1.1 μ V
S/N at 1000 μ V at 98 MHz (Mono)	.70 dB
(Stereo)	.65 dB
Fidelity ± 1 dB, 1000 μ V at 98 MHz	20 – 15000 Hz
Output Level at 1000 μ V 98 MHz, 75 kHz dev.	1V
Selectivity 100 μ V, ± 400 kHz	
Wide Position	.50 dB
Narrow Position	.65 dB
Muting Level	25 μ V
Stereo Separation 1100 μ V 98 MHz 1000 Hz	.45 dB
Stereo THD. 1100 μ V at 98 MHz 1000 Hz	0.3%

AM PERFORMANCE

Frequency Range	
MW	510 – 1650 MHz
LW	145 – 370 kHz

Sensitivity for 20 dB S/N

MW at 1000 kHz	.50 μ V
LW at 240 kHz	100 μ V
S/N at 1mV (MW)	.45 dB
Output Level at 1mV 1000 kHz.	

 80% Modulation 1.0V

GENERAL

Power Source	~ 220 – 240 Volts 50 Hz
Dimensions	Approx. 430mm(W) x 80mm(H) x 250mm(D)
Weight	4.5 kg (Approx.)
Accessories	FM wire antenna US pin plug cord

Subject to changes without notice.

2. DISASSEMBLY INSTRUCTIONS

(1) Top cover removal

Remove four screws on the both sides of the set and lift up the top cover.

(2) Bottom cover removal

Remove a screw on the center of the bottom cover and lift the bottom cover.

(3) Front panel removal

Remove six rotary knobs.

Remove four screws (A) from top and bottom as shown in Figure 1 and 2, and the front panel with push buttons can be removed.

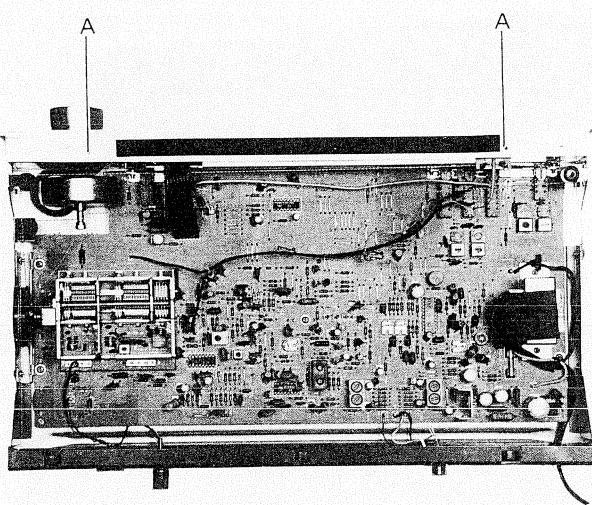


Figure 1

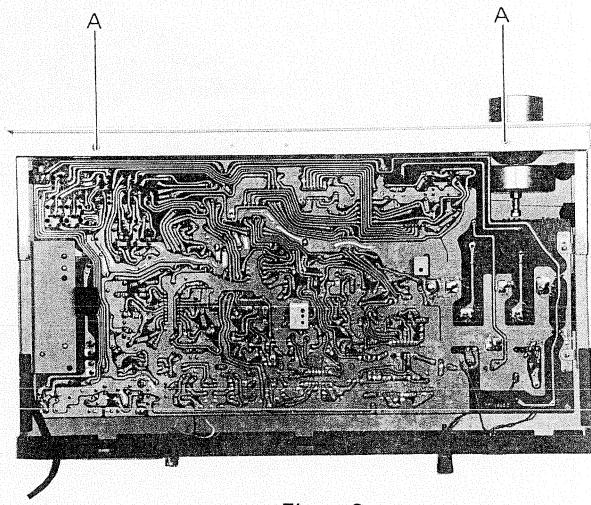


Figure 2

3. DIAL CORD STRINGING

- (1) Set the tuning capacitor to the maximum capacitance (fully counterclockwise position).
- (2) Wind the dial cord in the numerical sequence as shown in Figure 3.

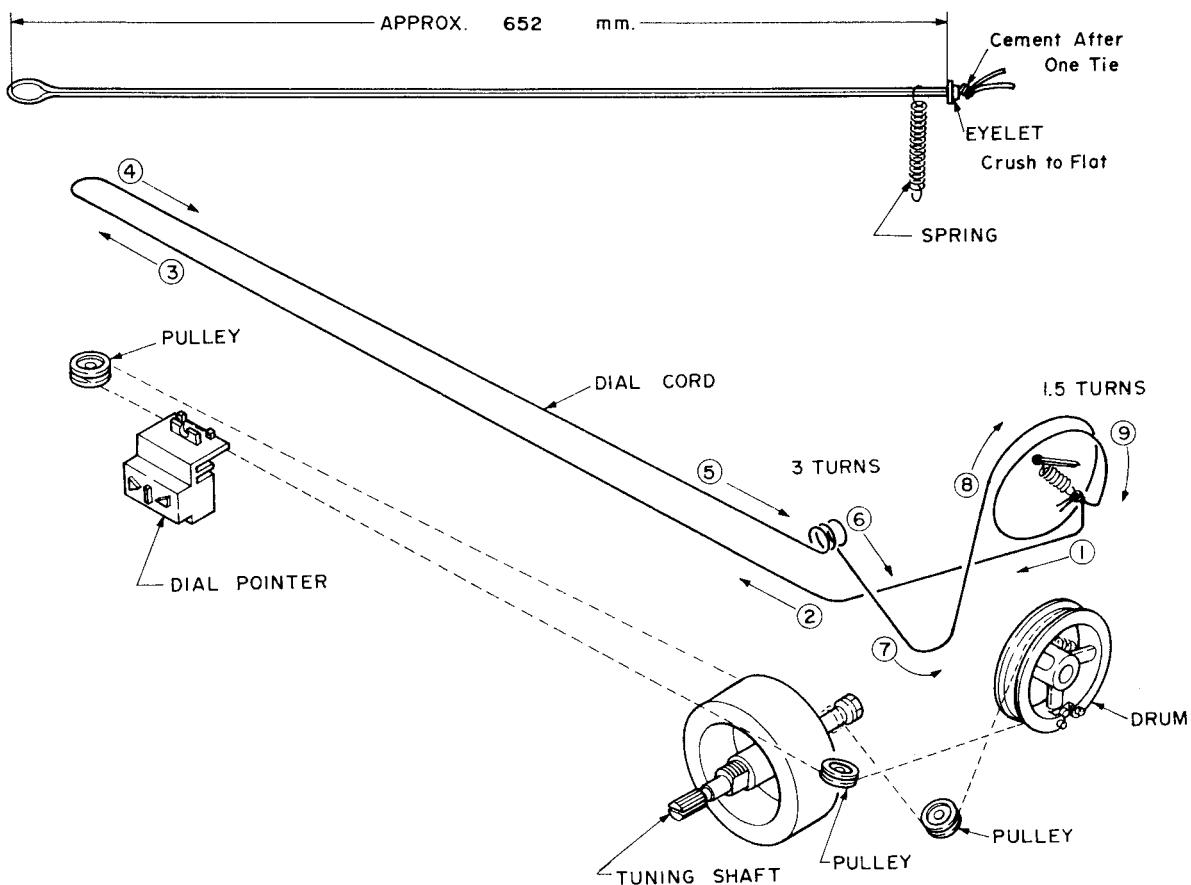


Figure 3

4. ALIGNMENT INSTRUCTIONS

AM ALIGNMENT

TEST EQUIPMENTS

- (1) Signal generator with a frequency range of at least from 140 kHz to 1.7 MHz for AM.
- (2) VTVM.
- (3) I.E.C. Dummy Antenna.

MW ALIGNMENT

- (1) Connect test equipments as shown in Figure 4.
- (2) Push the MW button.
- (3) Generator modulation... 400 Hz 30%.
- (4) Proceed as outlined in the TABLE 1. MW ALIGNMENT CHART.

NOTES:

- (1) During alignment, keep the signal generator output at the lowest level where the set is sensible of signal.
- (2) Ground connection of signal generator... to chassis ground.
- (3) "Tuning gang fully clockwise" means minimum capacitance position.

TABLE 1. MW ALIGNMENT CHART (For alignment points, see Figure 5.)

Item	Step	Signal Generator Frequency	Dial Setting	Meter Connection	Adjusting Point	Adjusting Level
IF	1	468 kHz	Tuning gang fully clockwise	Output terminal L ch or R ch	IT202 IT203	Adjust for maximum
Osc. Freq.	2	510 kHz	Tuning gang fully counter-clockwise	Same as step 1	L108	Same as step 1
	3	1650 kHz	Tuning gang fully clockwise	Same as step 1	TC103	Same as step 1
	4	Repeat steps 2 and 3 as required.				
RF Tracking	5	600 kHz	Tune to signal	Same as step 1	L106	Same as step 1
	6	1400 kHz	Tune to signal	Same as step 1	TC101	Same as step 1
	7	Repeat steps 5 and 6 as required.				

LW ALIGNMENT

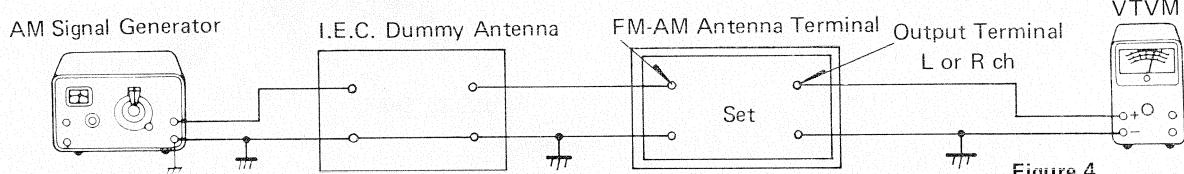
(1) Connect test equipments as shown in Figure 4.
 (2) Push the LW button.
 (3) Generator modulation . . . 400 Hz 30%.

(4) Proceed as outlined in the TABLE 2.

LW ALIGNMENT CHART

TABLE 2. LW ALIGNMENT CHART (For alignment points, see Figure 5.)

Item	Step	Signal Generator Frequency	Dial Setting	Meter or Connection	Adjusting Point	Adjusting Level
Osc. Freq.	1	145 kHz	Tuning gang fully counter-clockwise	Output terminal L ch or R ch	L109	Adjust for maximum.
	2	370 kHz	Tuning gang fully clockwise	Same as step 1	TC104	Same as step 1
	3	Repeat steps 1 and 2 as required.				
RF Tracking	4	170 kHz	Tune to signal	Same as step 1	L107	Same as step 1
	5	320 kHz	Tune to signal	Same as step 1	TC102	Same as step 1
	6	Repeat steps 4 and 5 as required.				



ALIGNMENT POINTS

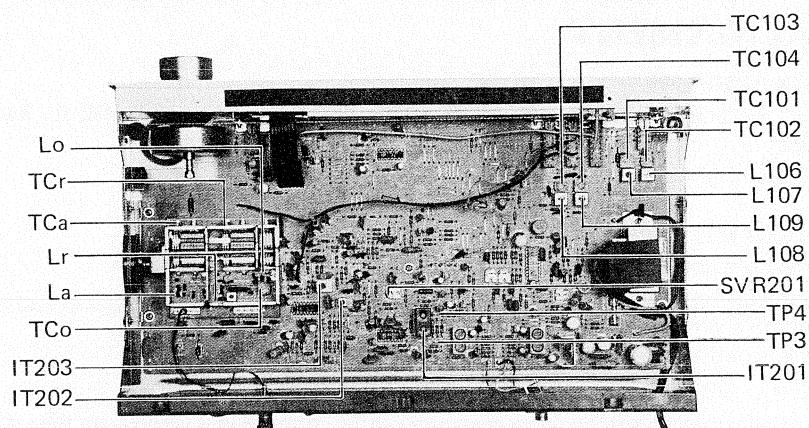


Figure 5

FM ALIGNMENT

TEST EQUIPMENTS

- (1) Signal generator with a frequency range of at least 85 MHz to 150 MHz (FM).
- (2) Distortion meter.
- (3) Oscilloscope.
- (4) VTVM.
- (5) Center meter.
- (6) FM dummy antenna (75 ohm).

ALIGNMENT

- (1) Connect test equipments as shown in Figure 6.
- (2) Push the FM button.
- (3) Set the MUTING switch to OFF (■) and IF BAND switch to WIDE (■).
- (4) Generator modulation ... 1 kHz (75 kHz dev.).
- (5) Proceed as outlined in the TABLE 3. FM ALIGNMENT CHART.

TABLE 3. FM ALIGNMENT CHART (For alignment points, see Figure 5.)

Item	Step	Signal generator	Dial Setting	Adjusting Point	Adjusting level
IF	1	No signal output	—	IT201	Center on the center meter
	2	98 MHz (1mV)	Tune to signal	IT201 (Near R222)	Adjust for minimum distortion
	3	Repeat steps 1 and 2 as required.			
Signal Indi.	4	98 MHz (300 μ V)	Tune to signal	SVR201	Adjust for maximum indicator
Osc. Freq.	5	87.5 MHz (10 μ V)	Tuning gang fully counterclockwise	Lo of Block-FM	Adjust for maximum.
	6	109 MHz (10 μ V)	Tuning gang fully clockwise	TCo of Block-FM	Same as step 5
	7	Repeat steps 5 and 6 as required.			
RF Tracking	8	90 MHz (3 μ V)	Tune to signal	La, Lr of Block-FM	Same as step 5
	9	106 MHz (3 μ V)	Tune to signal	TCa, TCr of Block-FM	Same as step 5
	10	Repeat steps 8 and 9 as required.			

CAUTION:

When realigning the FM Receiving Frequency, the lower side of the frequency range must not be below 87.5 MHz in order to comply FTZ regulations in West Germany.

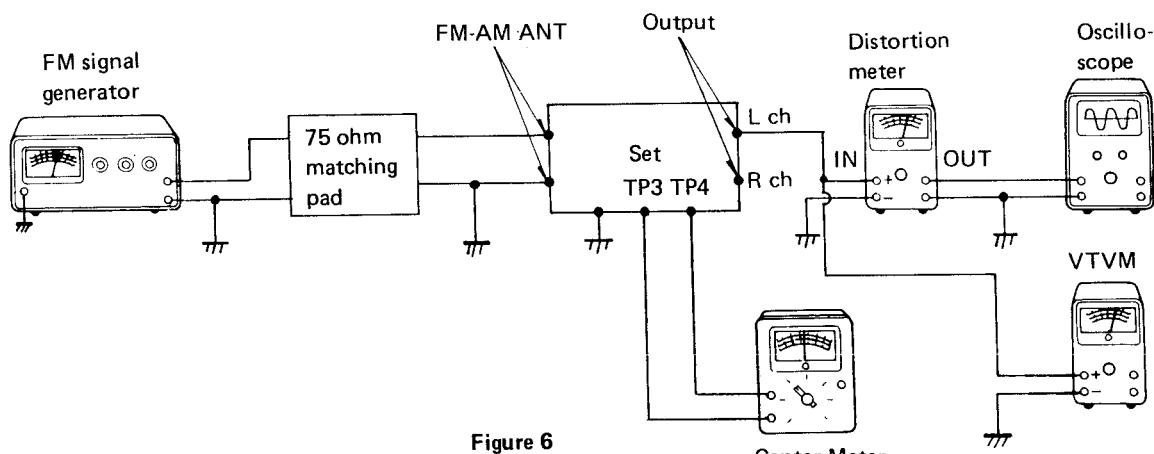


Figure 6

FM STEREO ALIGNMENT

TEST EQUIPMENTS

(1) FM signal generator	(4) Oscilloscope
(2) FM stereo modulator	(5) Frequency Counter
(3) VTVM	(6) FM matching pad (75 ohm)

NOTE:

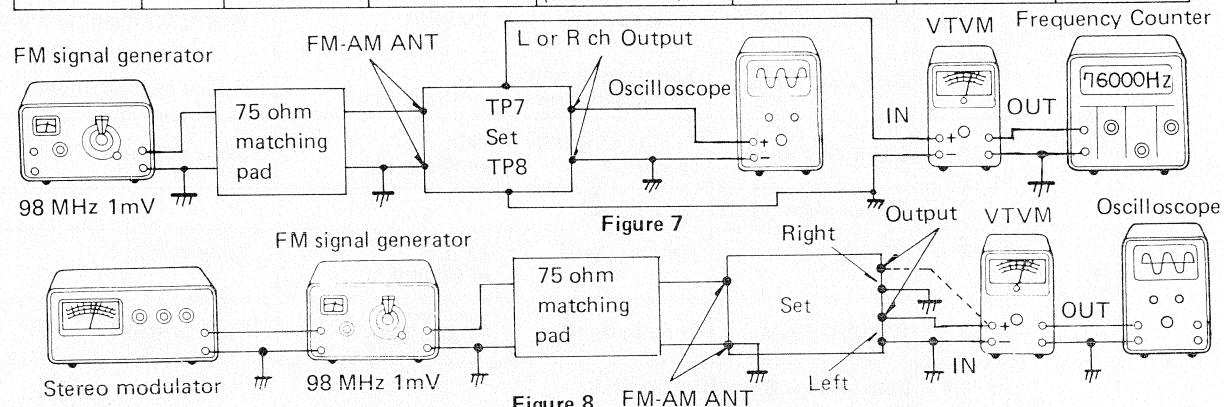
(1) Set the deviation meter by the signal of L = R and switch mode desired.

ALIGNEMENT

- (1) Connect the equipments as shown in Figure 7 or Figure 8.
- (2) Set the MUTING switch to ON (■) and IF BAND switch to WIDE (—).
- (3) RF signal input should be about 60 dB (1mV).
- (4) Set the turning gang to a quiet point on dial.
- (5) Proceed as outlined in the TABLE 4. FM STEREO ALIGNMENT CHART.

TABLE 4. FM STEREO ALIGNMENT CHART (For alignment points, see Figure 9.)

Item	Step	Modulation Frequency	Modulation Mode Setting	Modulation Level Setting	Adjusting Point	Adjusting Level etc.	Connection
VCO Adj.	1	—	—	0%	SVR205 slightly	76.0 ±0.076 kHz	Figure 7
Pilot Cancel Adj.	2	—	—	10% (Pilot) (7.5 kHz dev.)	SVR202 slightly	Adjust for minimum	Figure 8
Sep. Adj.	3	1000 Hz	Stereo Rch/- L ch with pilot	90% (Main & Sub) (67.5 kHz dev.) 10% (Pilot) (7.5 kHz dev.)	SVR203/204 slightly (separation)	Adjust for minimum	Figure 8



ALIGNMENT POINTS

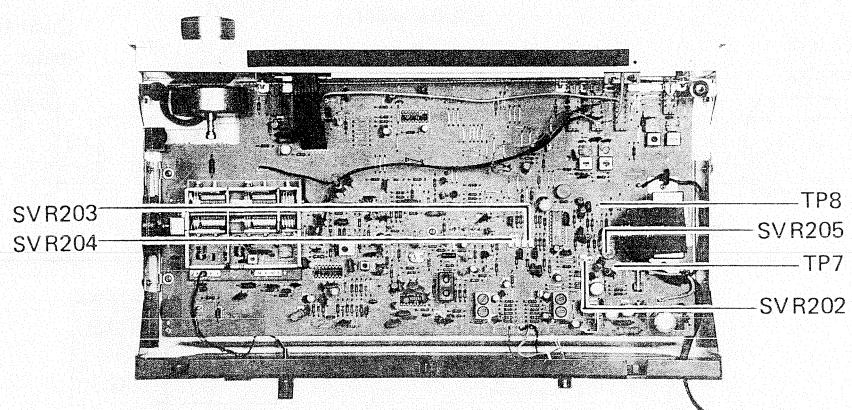
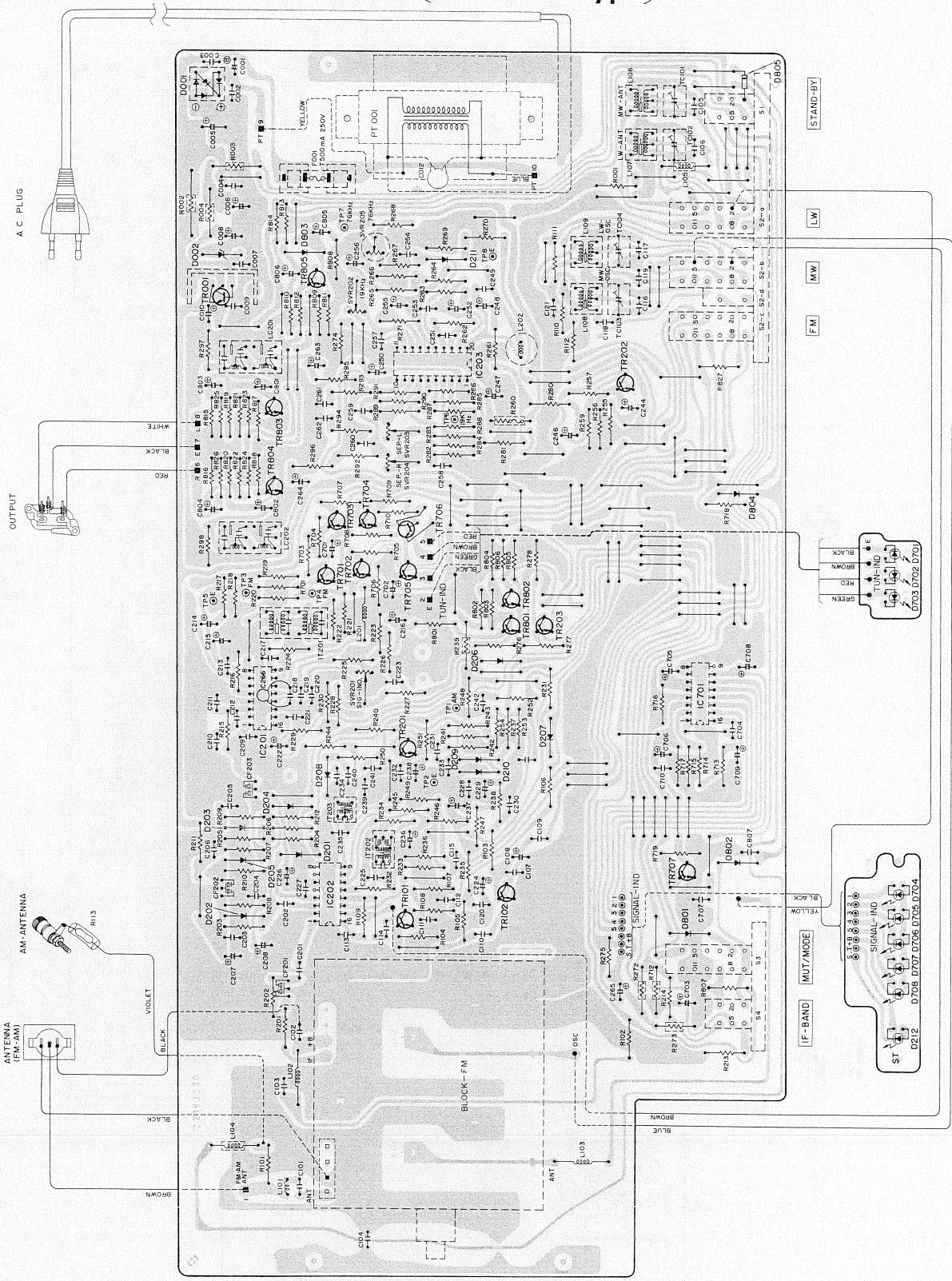


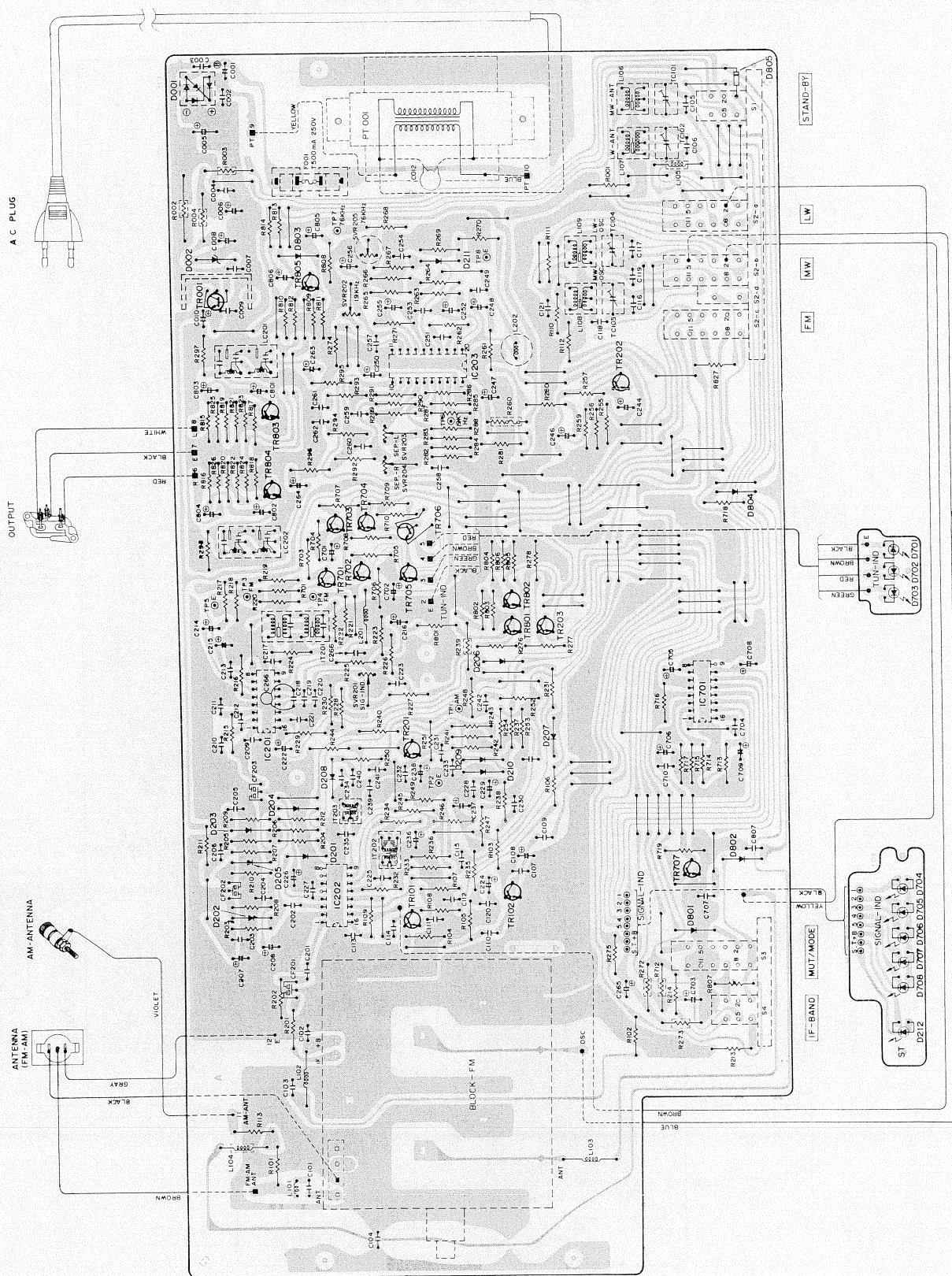
Figure 9

5. PRINTED CIRCUIT BOARDS

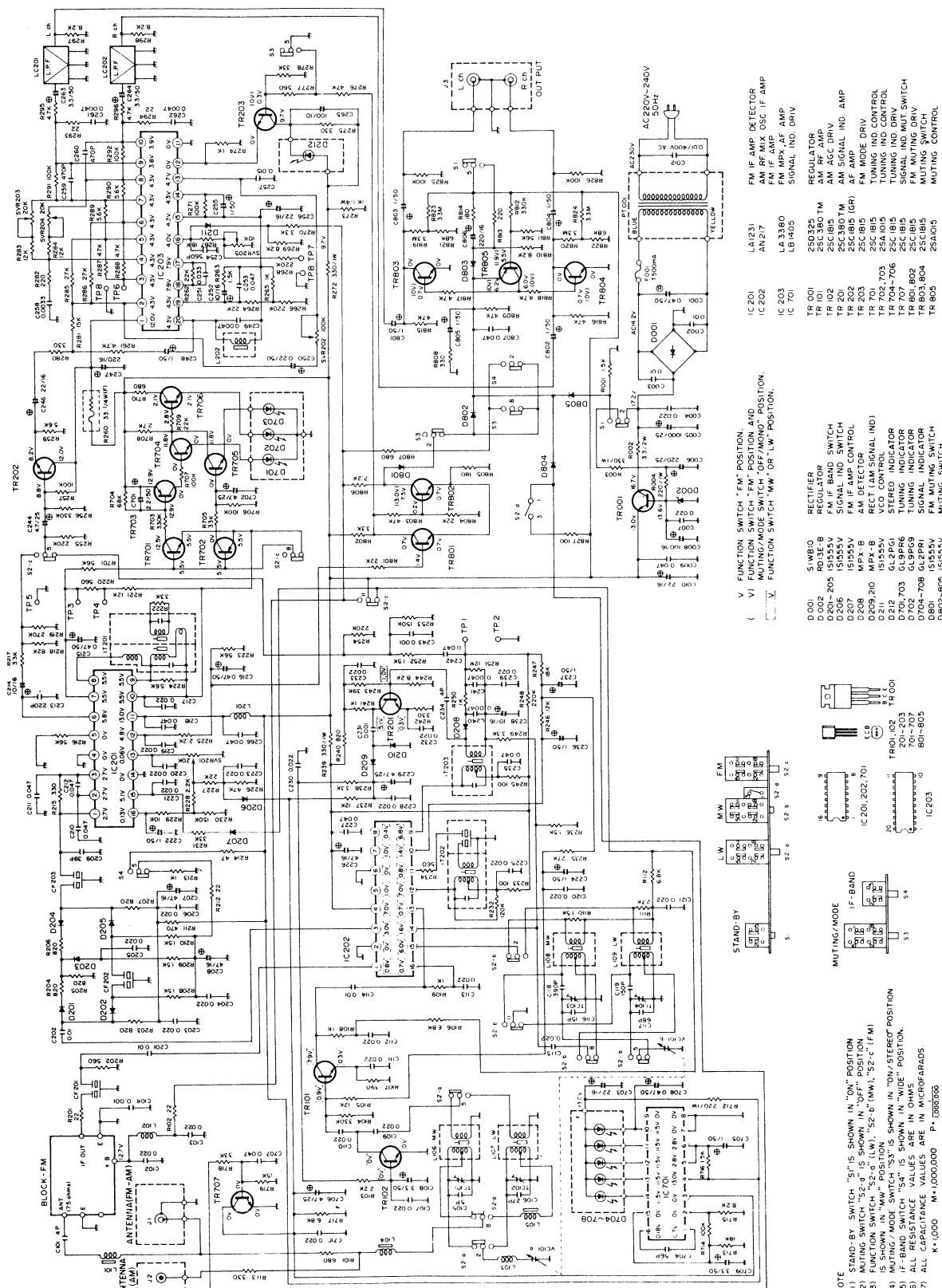
BOTTOM VIEW AND WIRING (Previous Type)



[Improved Type] — See the wiring around the antenna terminals —

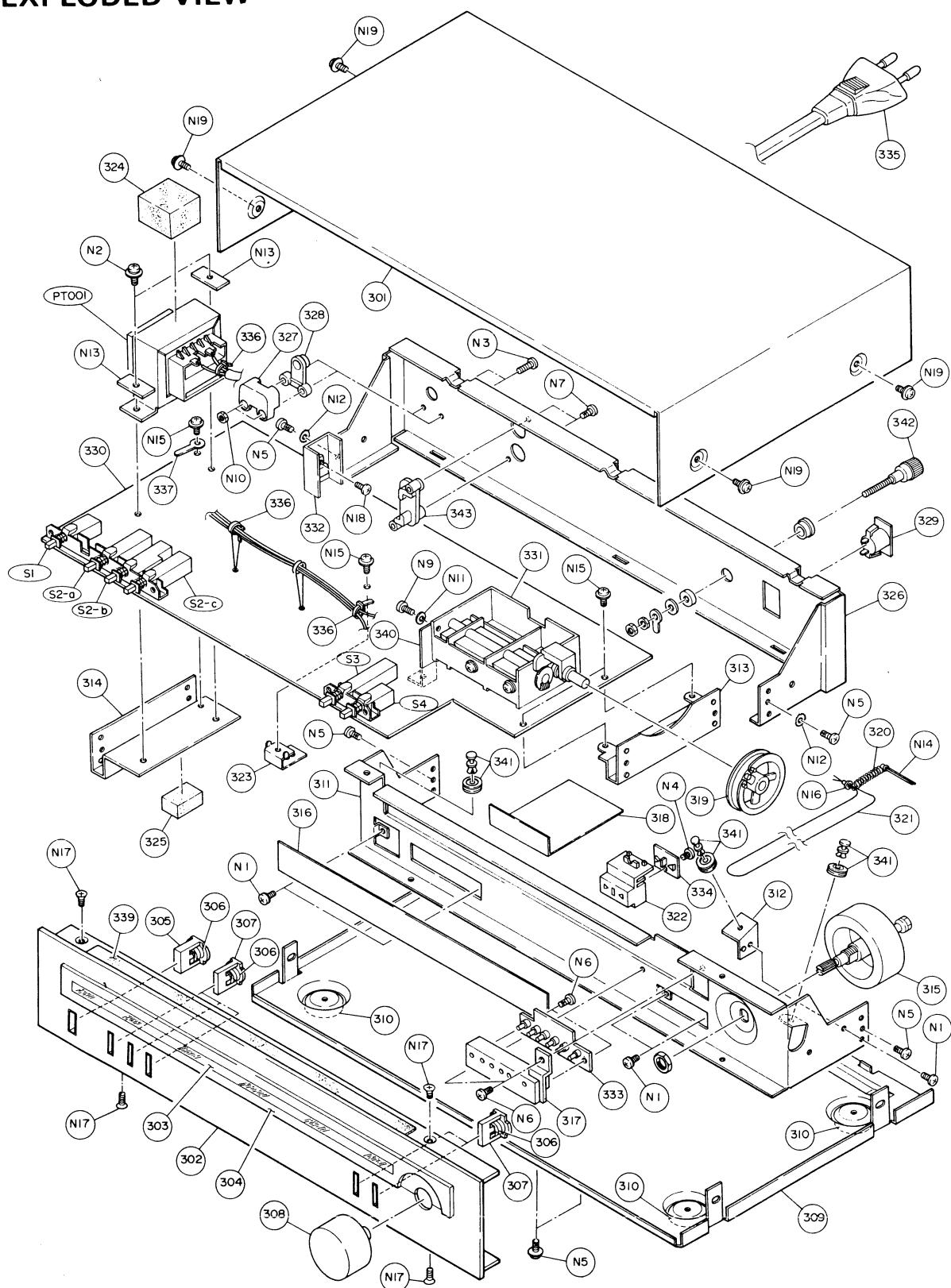


6. SCHEMATIC DIAGRAM



7. EXPLODED VIEW AND PARTS

EXPLODED VIEW



PARTS LIST

ELECTRICAL PARTS

Symbol No.	Part No.	Description
ICs		
IC201	22114700	IC, LA1231
IC202	22114359	IC, AN217-BB
IC203	22114859	IC, LA3380-B
IC701	22114769	IC, LB1405
TRANSISTORS & DIODES		
Symbol No. with TR: Transistor		
Symbol No. with D: Diode		
TR001	22114478	2SD325-E
TR101	36707940	2SC380TM-O
TR102	36317480	2SC1815-BL
TR201	36707940	2SC380TM-O
TR202	36317460	2SC1815-GR
TR203	36317480	2SC1815-BL
TR701	36317480	2SC1815-BL
TR702	36534060	2SA1015-GR
TR703	36534060	2SA1015-GR
TR704	36317480	2SC1815-BL
TR705	36317480	2SC1815-BL
TR706	36317480	2SC1815-BL
TR707	36317480	2SC1815-BL
TR801	36317480	2SC1815-BL
TR802	36317480	2SC1815-BL
TR803	36317480	2SC1815-BL
TR804	36317480	2SC1815-BL
TR805	36524060	2SA1015-GR
D001	22115631	S1WB10
D002	22115574	RD13E-B3-M
D201	37246745	1S1555V-TP3
D202	37246745	1S1555V-TP3
D203	37246745	1S1555V-TP3
D204	37246745	1S1555V-TP3
D205	37246745	1S1555V-TP3
D206	37246745	1S1555V-TP3
D207	37246745	1S1555V-TP3
D208	22115506	MPX-B-TPS
D209	22115506	MPX-B-TPS
D210	22115506	MPX-B-TPS
D211	37246745	1S1555V-TP3
D212	22115636	GL2PG1

Symbol No.	Part No.	Description
D701	22115637	GL9PR6
D702	22115586	GL9PG9
D703	22115637	GL9PR6
D704	22115632	GL2PR1
D705	22115632	GL2PR1
D706	22115632	GL2PR1
D707	22115632	GL2PR1
D708	22115632	GL2PR1
D801	37246745	1S1555V-TP3
D802	37246745	1S1555V-TP3
D803	37246745	1S1555V-TP3
D804	37246745	1S1555V-TP3
D805	37246745	1S1555V-TP3
COILS & TRANSFORMERS		
L101	22291009	Choke Coil, FM
L102	22211229	Choke Coil, AF
L103	22211229	Choke Coil, AF
L104	92291058	Choke Coil
L105	92291058	Choke Coil
L106	22242822	Choke Coil, MW
L107	22202027	Antenna Coil, LW
L108	22245332	OSC Coil, MW
L109	22205068	OSC Coil, LW
L201	22211229	Choke Coil, AF
L202	22211260	Choke Coil, AF
LC201	22232243	MPX Coil
LC202	22232243	MPX Coil
TC101	22309104	TRIM-CON-R
TC102	22309140	TRIM-CON-R
TC103	22309104	TRIM-CON-R
TC104	22309140	TRIM-CON-R
IT201	22267288	IF Transisformer, FM
IT202	22264814	IF Transisformer, AM
IT203	22266340	IF Transisformer, AM

Symbol No.	Part No.	Description			
CAPACITORS					
Tolerance: D: $\pm 0.5\text{PF}$, J: $\pm 5\%$, K: $\pm 10\%$, M: $\pm 20\%$, P: +100 to -0%, Z: +80 to -20%, G: $\pm 2\%$					
(N): Non polarity type					
C001	22403085	Electrolytic	0.47 mfd/50WV		
C002	22342103	Ceramic	0.01 mfd, Z		
C003	22342103	Ceramic	0.01 mfd, Z		
C004	22342223	Ceramic	0.022 mfd, Z		
C005	22446102	Electrolytic	1000 mfd/25WV		
C006	22446221	Electrolytic	220 mfd/25WV		
C007	22342223	Ceramic	0.022 mfd, Z		
C008	22445101	Electrolytic	100 mfd/16WV		
C009	22342473	Ceramic	0.047 mfd, Z		
C010	22445220	Electrolytic	22 mfd/16WV		
C012	22340154	Ceramic	0.01 mfd, Z		
C101	22361409	Ceramic	4 PF, D		
C102	22342223	Ceramic	0.022 mfd, Z		
C103	22342223	Ceramic	0.022 mfd, Z		
C104	22343102	Ceramic	0.001 mfd, M		
C105	22361509	Ceramic	5 PF, D		
C106	22361270	Ceramic	27 PF, J		
C107	22342223	Ceramic	0.022 mfd, Z		
C108	22440388	Electrolytic	3.3 mfd/50WV		
C109	22342223	Ceramic	0.022 mfd, Z		
C110	22342223	Ceramic	0.022 mfd, Z		
C111	22342223	Ceramic	0.022 mfd, Z		
C112	22342223	Ceramic	0.022 mfd, Z		
C113	22342223	Ceramic	0.022 mfd, Z		
C114	22342103	Ceramic	0.01 mfd, Z		
C115	22371223	Mylar	0.022 mfd, J		
C116	22360583	Ceramic	15 PF, J		
C117	22360575	Ceramic	68 PF, J		
C118	22360577	Ceramic	390 PF, J		
C119	22360576	Ceramic	150 PF, J		
C120	22342223	Ceramic	0.022 mfd, Z		
C121	22342223	Ceramic	0.022 mfd, Z		
C201	22342103	Ceramic	0.01 mfd, Z		
C202	22342103	Ceramic	0.01 mfd, Z		
C203	22342223	Ceramic	0.022 mfd, Z		
C204	22342223	Ceramic	0.022 mfd, Z		
C205	22342223	Ceramic	0.022 mfd, Z		
C206	22342223	Ceramic	0.022 mfd, Z		
C207	22445470	Electrolytic	47 mfd/16WV		
C208	22445470	Electrolytic	47 mfd/16WV		
C209	22361390	Ceramic	39 PF, J		
C210	22342473	Ceramic	0.047 mfd, Z		
C211	22342473	Ceramic	0.047 mfd, Z		
C212	22342473	Ceramic	0.047 mfd, Z		
C213	22361221	Ceramic	220 PF, K		
C214	22445100	Electrolytic	10 mfd/16WV		
C215	22440310	Electrolytic	0.47 mfd/50WV		
C216	22440310	Electrolytic	0.47 mfd/50WV		

Symbol No.	Part No.	Description	
C217	22342223	Ceramic	0.022 mfd, Z
C218	22342473	Ceramic	0.047 mfd, Z
C219	22342223	Ceramic	0.022 mfd, Z
C220	22342223	Ceramic	0.022 mfd, Z
C221	22342223	Ceramic	0.022 mfd, Z
C222	22448109	Electrolytic	1 mfd/50WV
C223	22342223	Ceramic	0.022 mfd, Z
C224	22448109	Electrolytic	1 mfd/50WV
C225	22342223	Ceramic	0.022 mfd, Z
C226	22445470	Electrolytic	47 mfd/16WV
C227	22342473	Ceramic	0.047 mfd, Z
C228	22342223	Ceramic	0.022 mfd, Z
C229	22440393	Electrolytic	4.7 mfd/25WV
C230	22342223	Ceramic	0.022 mfd, Z
C231	22343102	Ceramic	0.001 mfd, M
C232	22342223	Ceramic	0.022 mfd, Z
C233	22342223	Ceramic	0.022 mfd, Z
C234	22361409	Ceramic	4 PF, D
C235	22342473	Ceramic	0.047 mfd, Z
C236	22448109	Electrolytic	1 mfd/50WV
C237	22448109	Electrolytic	1 mfd/50WV
C238	22445100	Electrolytic	10 mfd/16WV
C239	22342223	Ceramic	0.022 mfd, Z
C240	22343472	Ceramic	0.0047 mfd, M
C241	22343472	Ceramic	0.0047 mfd, M
C242	22371473	Mylar	0.047 mfd, J
C243	22371102	Mylar	0.001 mfd, J
C244	22440393	Electrolytic	4.7 mfd/25WV
C246	22440394	Electrolytic	22 mfd/16WV
C247	22445221	Electrolytic	220 mfd/16WV
C248	22448109	Electrolytic	1 mfd/50WV
C249	22371472	Mylar	0.0047 mfd, J
C250	22440311	Electrolytic	0.22 mfd/50WV
C251	22371333	Mylar	0.033 mfd, J
C252	22445100	Electrolytic	10 mfd/16WV
C253	22371473	Mylar	0.047 mfd, J
C254	22391561	Polypropylene	560 PF, J
C255	22440309	Electrolytic	1 mfd/50WV
C256	22445220	Electrolytic	22 mfd/16WV
C257	22371153	Mylar	0.015 mfd, J
C258	22371332	Mylar	0.033 mfd, J
C259	22391471	Polypropylene	470 PF, J
C260	22391471	Polypropylene	470 PF, J
C261	22371472	Mylar	0.0047 mfd, J
C262	22371472	Mylar	0.0047 mfd, J
C263	22440323	Electrolytic	3.3 mfd/50WV
C264	22440323	Electrolytic	3.3 mfd/50WV
C265	22443101	Electrolytic	100 mfd/10WV
C266	22342473	Ceramic	0.047 mfd, Z
C701	22440306	Electrolytic	2.2 mfd/50WV
C702	22440393	Electrolytic	4.7 mfd/25WV
C703	22445220	Electrolytic	22 mfd/16WV

Symbol No.	Part No.	Description	
C704	22361560	Ceramic	56 PF, K
C705	22448109	Electrolytic	1 mfd/50WV
C706	22446479	Electrolytic	4.7 mfd/25WV
C707	22342473	Ceramic	0.047 mfd, Z
C708	22440310	Electrolytic	0.47 mfd/50WV
C709	22440388	Electrolytic	3.3 mfd/50WV
C710	22342223	Ceramic	0.022 mfd, Z
C801	22440309	Electrolytic	1 mfd/50WV
C802	22440309	Electrolytic	1 mfd/50WV
C803	22440309	Electrolytic	1 mfd/50WV
C804	22440309	Electrolytic	1 mfd/50WV
C805	22448109	Electrolytic	1 mfd/50WV
C806	22445221	Electrolytic	220 mfd/16WV
C807	22342473	Ceramic	0.047 mfd, Z

RESISTORS

All fixed resistors are 1/8W, $\pm 5\%$, carbon resistor unless otherwise noted.

Tolerance: G: $\pm 2\%$, J: $\pm 5\%$, K: $\pm 10\%$

R001	22543152	1.5K ohm	
R002	22573339	Metal Oxide	3.3 ohm, 2W
R003	22571331	Metal Oxide	330 ohm, 1W
R004	22571221	Metal Oxide	220 ohm, 1W
R101	22543681	680 ohm	
R102	22543220	22 ohm	
R103	22543222	2.2K ohm	
R104	22543334	330K ohm	
R105	22543123	12K ohm	
R106	22543682	6.8K ohm	
R107	22543391	390 ohm	
R108	22543102	1K ohm	
R109	22543102	1K ohm	
R110	22543152	1.5K ohm	
R111	22543272	2.7K ohm	
R112	22543682	6.8K ohm	
R201	22543220	22 ohm	
R202	22543561	560 ohm	
R203	22543821	820 ohm	
R204	22543821	820 ohm	
R205	22543821	820 ohm	
R206	22543821	820 ohm	
R207	22543821	820 ohm	
R208	22543152	1.5K ohm	
R209	22543152	1.5K ohm	
R210	22543152	1.5K ohm	
R211	22543471	470 ohm	

Symbol No.	Part No.	Description	
R212	22543220	22 ohm	
R213	22543102	1K ohm	
R214	22543470	47 ohm	
R215	22543331	330 ohm	
R216	22543563	56K ohm	
R217	22543332	3.3K ohm	
R218	22543823	82K ohm	
R219	22543274	270K ohm	
R220	22543561	560 ohm	
R221	22543123	12K ohm	
R222	22543332	3.3K ohm	
R223	22543563	56K ohm	
R224	22543562	5.6K ohm	
R225	22543222	2.2K ohm	
R226	22543473	47K ohm	
R227	22543223	22K ohm	
R228	22543222	2.2K ohm	
R229	22543103	10K ohm	
R230	22543154	150K ohm	
R231	22543333	33K ohm	
R232	22543124	120K ohm	
R233	22543101	100 ohm	
R234	22543561	560 ohm	
R235	22543273	27K ohm	
R236	22543152	1.5K ohm	
R237	22543123	12K ohm	
R238	22543332	3.3K ohm	
R239	22571331	Metal Oxide	330 ohm, 1W
R240	22543821	820 ohm	
R241	22543102	1K ohm	
R242	22543331	330 ohm	
R243	22543393	39K ohm	
R244	22543822	8.2K ohm	
R245	22543101	100 ohm	
R246	22543123	12K ohm	
R247	22543183	18K ohm	
R248	22543224	220K ohm	
R249	22543332	3.3K ohm	
R250	22543102	1K ohm	
R251	22543123	12K ohm	
R252	22543152	1.5K ohm	
R253	22543154	150K ohm	
R254	22543224	220K ohm	
R255	22543224	220K ohm	
R256	22543334	330K ohm	
R257	22543104	100K ohm	
R259	22543562	5.6K ohm	
R260	22500266	Fusible	33 ohm, 1/4W, J
R261	22543472	4.7K ohm	
R262	22543223	22K ohm	
R263	22543152	1.5K ohm	
R264	22543223	22K ohm	
R265	22543102	1K ohm	

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
R266	22543224	220K ohm	R803	22543473	47K ohm
R267	22543183	18K ohm	R804	22543223	22K ohm
R268	22543224	220K ohm	R805	22543181	180 ohm
R269	22543822	8.2K ohm	R806	22543222	2.2K ohm
R270	22543332	3.3K ohm	R807	22543681	680 ohm
R271	22543104	100K ohm	R808	22543331	330 ohm
R272	22571331	Metal Oxide 330 ohm, 1W	R809	22543473	47K ohm
R273	22545102	1K ohm	R810	22543822	8.2K ohm
R274	22543102	1K ohm	R811	22543563	56K ohm
R275	22543331	330 ohm	R812	22543334	330K ohm
R276	22543473	47K ohm	R813	22543221	220 ohm
R277	22543561	560 ohm	R814	22543181	180 ohm
R278	22543333	33K ohm	R815	22543473	47K ohm
R280	22543331	330 ohm	R816	22543473	47K ohm
R281	22543153	15K ohm	R817	22543472	4.7K ohm
R282	22543221	220 ohm	R818	22543472	4.7K ohm
R283	22543123	12K ohm	R819	22543335	3.3M ohm
R284	22543123	12K ohm	R820	22543335	3.3M ohm
R285	22543273	27K ohm	R821	22543683	68K ohm
R286	22543273	27K ohm	R822	22543682	68K ohm
R287	22543472	4.7K ohm	R823	22543335	3.3M ohm
R288	22543472	4.7K ohm	R824	22543335	3.3M ohm
R289	22543562	5.6K ohm	R825	22543104	100K ohm
R290	22543562	5.6K ohm	R826	22543104	100K ohm
R291	22543104	100K ohm	R827	22543101	100 ohm
R292	22543104	100K ohm	SVR201	22658455	Semi-Fixed 20K ohm
R293	22543220	22 ohm	SVR202	22658456	Semi-Fixed 100K ohm
R294	22543220	22 ohm	SVR203	22658455	Semi-Fixed 20K ohm
R295	22543472	4.7K ohm	SVR204	22548455	Semi-Fixed 20K ohm
R296	22543472	4.7K ohm	SVR205	22658514	Semi-Fixed 10K ohm
R297	22543822	8.2K ohm			
R298	22543822	8.2K ohm			
R701	22543563	56K ohm			
R703	22543334	330K ohm			
R704	22543683	68K ohm			
R705	22543333	33K ohm			
R706	22543104	100K ohm			
R707	22543104	100K ohm			
R708	22543272	2.7K ohm			
R709	22543223	22K ohm			
R710	22543681	680 ohm			
R712	22571221	Metal Oxide 220 ohm, 1W			
R713	22543183	18K ohm	F001	22144192	Fuse, 0.5A.T
R714	22543104	100 ohm	S1	22140649	Push Switch (STANDBY)
R715	22543822	8.2K ohm	S2-a		
R716	22543152	1.5K ohm	S2-b	22140649	Push (LW, MW, FM)
R717	22543682	6.8K ohm	S2-c		
R718	22543333	33K ohm	S3	22140648	Push Switch (MUTING/MODE)
R719	22543153	15K ohm	S4	22140648	Push Switch (IF BAND)
R801	22543223	22K ohm	PT001	22223545	Power Transistor
R802	22543332	3.3K ohm		22176529	Power Cord

EXPLODED VIEW PARTS

Symbol No.	Part No.	Description
301	20848607	Cabinet
302	20836699	Panel
303	20848630	Dial Cover
304	20019690	Dial Plate
305	20874675	Push Button
306	22776666	Spring
307	20874676	Push Button
308	20872637	Tuning Knob
309	22832822	Bottom Cabinet
310	20842649	Foot
311	20015827	Chassis
312	20747614	Support Pulley
313	20735706	Bracket
314	20735709	Power Transformer Bracket
315	20042719	Tuning Shaft
316	20019692	Back Dial
317	20747608	LED Support
318	22748881	Barrier
319	20042715	Drum
320	22771618	Pull Spring
321	22745502	Dial String
322	20042721	Pointer
323	20747601	P.C. Board Support
324	22756989	Cushion
325	22756979	Cushion
326	20015829	Back Chassis
327	22754791	Cord Clamper
328	22184183	Cord Clamper
329	22164880	Antenna Plug
330	22193230	Ratio P.C. Board
331	22131235	FM Block
332	22748794	Radiator
333	22193231	LED P.C. Board
334	22193232	LED P.C. Board
335	22176529	Power Cord
336	20975612	Band
337	22754981	Lug Clamp
339	22756528	Cushion
340	20747632	Variable Capacitor Stay
341	92742217	Pulley Assembly
342	22162388	S1P Terminal
343	22163765	US2P Jack

Symbol No.	Part No.	Description
SCREWS & RINGS		
N1	20795955	Bind Head 3.0 x 6mm with SW
N2	22701586	Bind Head 3.0 x 8mm with WW
N3	22701716	Bind Head 3.0 x 14mm
N4	72632608	Bind Head Tapping 2.6 x 8mm
N5	72633006	Bind Head Tapping 3.0 x 6mm
N6	72633008	Bind Head Tapping 3.0 x 8mm
N7	22701724	Bind Head Tapping
N8	22701723	Bind Head Tapping
N9	22701788	Bind Head Tap Tight 3.0 x 5mm
N10	73653000	Nut 3.0φ
N11	74010030	Spring Washer 3.0φ
N12	74020030	Lock Washer 3.0φ
N13	20791809	Special Washer 4.2φ
N14	74301010	Sprit Pin 1.0 x 10mm
N15	20795908	Flange Head Tapping 3.0 x 8mm
N16	75820352	Eyelet 2.0 x 2mm
N17	70443006	Flat Head 3.0 x 6mm
N18	20795924	Tap Tight 3.0 x 5mm
N19	20795992	Pan Head 3.0 x 8mm with W
ACCESSORIES		
	22124971	FM Antenna
	22164836	US1P Plug Cord
	22953946	Owner's Manual